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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,163	09/28/2001	Paul E. Burrows	VIT 0012 PA	4083

7590 09/17/2003

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EXAMINER

HON, SOW FUN

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 09/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/966,163

Applicant(s)

BURROWS ET AL

Examiner

Sow-Fun Hon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 22-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-21, drawn to an article, classified in class 428, subclass 1.5.

II. Claims 22-41, drawn to a method, classified in class 427, subclass 103.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the edge-sealed barrier film can be made by forming the initial barrier stack adjacent to the substrate instead of forming the initial barrier stack beforehand and then placing it adjacent to the substrate.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Patricia Prior on September 11, 2003, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 22-41 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-7, 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Harvey, III et al. (US 5,686,360).

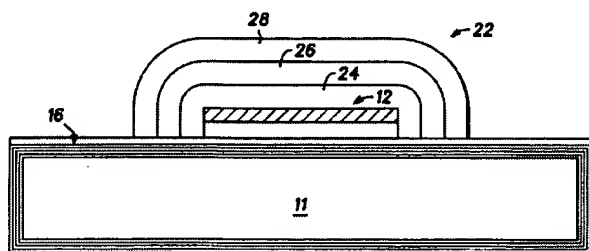
Harvey, III et al. has an edge-sealed barrier film composite in the embodiment on the next page.

Claims 1-7, 9-10, 12 are met by the recitation of a substrate 11, an environmentally sensitive device (array of pixels of organic light emitting devices susceptible to oxygen and moisture in the surrounding atmosphere) and at least one initial barrier stack 16 adjacent to the substrate comprising at least one decoupling layer 17 and at least one barrier layer 18 (column 4, lines 1-30). Decoupling layer 17 (as defined in the specification, pages 2-3) is formed from organic polymer (column 4, lines 50-70) and barrier layer 18 (as defined in the specification, pages 2-3) is formed from metal (silicon) oxides, metal (silicon) nitrides (column 5, lines 1-10).

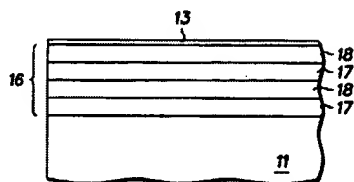
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If each initial barrier stack is viewed as being composed of one decoupling layer 17 and one barrier layer 18, since the area of the first initial barrier layer 18 closest to the substrate is such that it encapsulates the first initial decoupling layer 17 closest to the substrate, it has an area greater than that of said decoupling layer. The second initial barrier stack then has greater area than the first initial barrier stack, so that the first barrier layer of the first initial barrier stack and the first barrier layer of the second initial barrier stack seal the first decoupling layer of the first initial barrier stack between them since the first decoupling layer of the first initial barrier stack is already sealed by the first barrier layer of the first initial barrier stack in independent claim 1. However, each initial barrier stack may also be viewed as being composed of two alternating decoupling layers and two alternating barrier layers.

Claim 11 is further met by the recitation of depositing alternating layers of at least one polymer (decoupling layer) and at least one metal (barrier layer) (as defined in the specification, pages 2-3) (column 5, lines 50-70) over the organic device 12 (column 8, lines 15-20) wherein the organic LED array 12 is sealed (with a polymer laminated metal foil) (column 6, lines 55-65). It can be seen in the embodiment below that the environmentally sensitive device 12 is sealed between the at least one initial barrier stack 16 and the at least one additional barrier stack 22.



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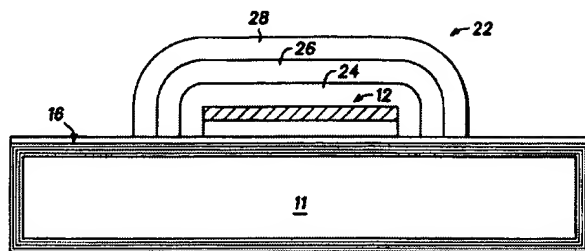
### *Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 8, 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harvey, III et al.

Harvey, III et al. has been described above and teaches depositing alternating layers of at least one polymer (decoupling layer) and at least one metal (barrier layer) (as defined in the specification, pages 2-3) (column 5, lines 50-70) over the environmentally sensitive organic device 12 (column 8, lines 15-20) wherein the organic LED array 12 is sealed (with a polymer laminated metal foil) (column 6, lines 55-65). It can be seen in the embodiment on the next page that the environmentally sensitive device 12 is sealed between the at least one initial barrier stack 16 and the at least one additional barrier stack 22.



Since Harvey et al. also teaches overcoating the array 12 (plurality of pixels) with a layer of stable metal (barrier layer as defined in the specification, pages 2-3) and then overcoating with a layer of organic polymer (decoupler layer as defined in the specification, pages 2-3) (column 8, lines 40-50) in addition to teaching depositing alternating layers of at least one polymer and one metal over array 12 (the organic device) (column 5, lines 50-70), it would have been obvious to one of ordinary skill in the art to provide an additional barrier stack wherein the area of the additional barrier stack is greater than the area of the first barrier stack since it seals (encapsulates) the first barrier stack which encapsulates array 12, such that the area of the first barrier layer of the first additional barrier stack is greater than the area of the first decoupling layer of the first additional barrier stack wherein the first decoupling layer of the first additional barrier stack is sealed by the first additional barrier stack within the area of the first barrier layer of the first additional barrier stack.


Lithium, magnesium, aluminum and indium are opaque, and since they are disclosed by Harvey et al. as metals (column 5, lines 50-70), it would have obvious to one of ordinary skill in the art to have used the opaque metals as the metal barrier layers.


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Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

  
Sow-Fun Hon  
09/12/03

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
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9/15/03